

WHAT IS CLAIMED IS:

1. A heat-insulating paper container fabricated from a body member of paper having an inside surface laminate of a polyethylene component effective to prevent penetration of liquid into the paper during use and an outside surface laminate of foamed low density polyethylene, said body member bonded to a bottom panel member having an upper surface and a bottom surface, wherein the inside surface laminate is selected from a material effective to form an improved seal between the bottom panel member and the body member of a twelve ounce cup fabricated at a speed of about 165 cups/minute by a HORAUF MODEL BMP-200 machine with temperature controls set at between about 350° to about 460°C and a bottom expansion pressure set at about 3000 kilopascals for two revolutions per cup.
2. A heat-insulating paper container according to claim 1, wherein the inside surface laminate is selected from a material that will not foam under conditions of about 240°F to about 270°F and a residence time of about 1.5 to about 2.5 minutes.
3. A heat-insulating paper container comprising a body member having an inside surface and an outside surface, and a bottom panel member having a upper surface and a bottom surface, said body member coated on its outside surface with a foamed low density polyethylene, and on its inside surface with an unfoamed modified low density polyethylene, and said bottom panel member coated on at least its upper surface with a low density polyethylene or modified low density polyethylene, wherein said body member and bottom panel member are oriented and joined to form a heat seal at an interface between a portion of the unfoamed modified low density polyethylene coated on the inside surface of the body member and a portion of the low density polyethylene or the modified low density polyethylene coated on the upper surface of the bottom panel member, and wherein the modified low density polyethylene is selected from materials effective to provide an improved seal between the bottom panel member and the body member of a twelve ounce cup fabricated at a speed of 165 cups/minute by a HORAUF MODEL BMP-200 machine with temperature controls set at between about 350° to about 460°C and a bottom expansion

pressure set at about 3000 kilopascals for two revolutions per cup.

4. A heat-insulating container according to claim 3, wherein the modified low density polyethylene is a polyethylene blend containing low density polyethylene in an amount effective to provide an improved seal between the bottom panel member and the body member of a twelve ounce cup fabricated at a speed of 165 cups/minute by a HORAUF MODEL BMP-200 machine with temperature controls set at between about 350° to about 460°C and a bottom expansion pressure set at about 3000 kilopascals for two revolutions per cup, and an amount of high density polyethylene such that the modified low density polyethylene(s) will not foam under conditions of about 240°F to about 270°F and a residence time of about 1.5 to about 2.5 minutes, when subjected to a foaming operation in a forced hot-air oven.

5. A heat insulating container according to claim 4, wherein said container is a cup.

6. A heat-insulating container according to claim 4, wherein the modified low density polyethylene comprises at least about 10 to about 98% low density polyethylene and about 2 to about 90% high density polyethylene.

7. A heat-insulating container according to claim 6, wherein the modified low density polyethylene comprises at least about 60 to about 90% low density polyethylene and about 10 to about 40% high density polyethylene.

8. A heat-insulating container according to claim 6, wherein the modified low density polyethylene comprises at least about 80 to about 90% low density polyethylene.

9. A heat-insulating container according to claim 6, wherein the modified low density polyethylene comprises at least about 90% low density polyethylene and about 10% high density polyethylene.

10. A heat-insulating container according to claim 6, wherein said bottom panel member is coated on at least its upper surface with an unfoamed low density polyethylene or an unfoamed modified low density polyethylene.
11. A heat-insulating container according to claim 10, wherein said bottom panel member is coated on at least its upper surface with an unfoamed low density polyethylene.
12. A heat insulating container according to claim 1, wherein said container is a cup.
13. A heat-insulating container according to claim 3, wherein the modified low density polyethylene is a polyethylene blend containing polyethylene materials selected to and blended in an amount effective to provide an improved seal between the bottom panel member and the body member of a twelve ounce cup fabricated at a speed of 200 cups/minute or more by a HORAUF MODEL BMP-200 machine with temperature controls set at between about 350° to about 460°C and a bottom expansion pressure set at about 3000 kilopascals for two revolutions per cup.
14. A heat-insulating paper container according to claim 13, wherein the modified low density polyethylene is a blend that will not foam under conditions of about 240°F to about 270°F and a residence time of about 1.5 to about 2.5 minutes.
15. A heat insulating container according to claim 14, wherein said container is a cup.